

Remarks

Claims 1-22 are pending.

Rejection of Claims under 35 U.S.C. § 102

Claims 1-22 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Burbidge et al., U.S. Patent No. 6,101,200 (Burbidge). The applicants respectfully traverse this rejection.

Burbidge neither teaches nor suggests a method comprising:

operating the thermo-electric cooler in one of at least a low power mode and a standard mode, the laser diode configured to transmit signals in the low power mode and the standard mode; and

switching between the low power mode and the standard mode, wherein:

the low power mode maintains the laser diode at a temperature within a predetermined range of temperatures; and

the standard mode maintains the laser diode at a temperature that corresponds to a predetermined wavelength of light output from the laser diode,

as required by independent claim 1 and generally required by independent claim 9.

Regarding Burbidge and claims 1 and 9, the Examiner states:

. . . the thermo-electric cooler (6) in one of at least an automatic temperature control module (3) is consider as a low power mode and an automatic power control module (2) is consider as a standard mode, the laser module configured to transmit in the low power mode and the standard mode; (Office Action of November 5, 2003, p. 2, ¶3)

Thus, the Examiner states that the operation of each of Burbidge's ATC module 3 and APC module 2 corresponds, respectively, to the claimed thermo-electric cooler low power mode and thermo-electric cooler standard power mode. The applicants respectfully disagree.

Nothing in Burbidge teaches or suggests that operation of ATC module 3 and APC module 2 corresponds to power modes of Burbidge's TEC 6. In fact, APC module 2 neither controls TEC 6, nor provides any signal to TEC 6. See, e.g., **Figures 1 and 2**. Thus, operation of APC Module 2 cannot be considered operating a thermo-electric

cooler in a standard mode, as suggested by the Examiner. Although Burbidge does teach that ATC module 3 provides drive current to TEC 6, there is no teaching or suggestion in Burbidge that ATC module 3 operates TEC 6 in a low power mode as contrasted with a standard mode.

Additionally, independent claim 1 specifically requires operating the thermo-electric cooler in *one* of at least a low power mode and a standard mode. In contrast, Burbidge teaches that APC module 2 and ATC module 3 operate simultaneously. See, e.g., column 2, lines 25-27. Thus, even if operation of APC module 2 and ATC module 3 corresponds, respectively, to operation of a thermo-electric cooler in a standard mode and a low power mode (a point which the applicants do not concede as noted above), such operation does not teach or suggest operating a thermo-electric cooler in one of those modes because Burbidge requires simultaneous operation of the modules.

Regarding the claimed “switching between the low power mode and the standard mode,” the Examiner states that “a PIN diode (4) is consider as switching between the low power mode and the standard mode” Office Action of November 5, 2003, p. 2, ¶3. The applicants respectfully disagree. Column 3, line 66 through column 4, line 5 of Burbidge states:

The APC module 2 receives as input a back-facet monitor (BFM) current, hereinafter a power level signal. This signal is proportional to the power of the optical output of the laser 7; it is supplied by the reverse-biased PIN diode 4, which serves as a photodetector and is positioned to receive a portion of the back-facet light emitted from the laser 7.


Thus, as used in both the embodiment of **Figure 1** and the embodiment of **Figure 2**, Burbidge’s PIN diode 4 merely serves to provide a control signal to APC module 2. It does not switch between power modes of the TEC 6, it does not switch between operation of modules 2 and 3, it does not control TEC 6 in any way, and it does not even provide a signal to ATC module 3.

Regarding the claimed “wherein: . . . the standard mode maintains the laser diode at a temperature that corresponds to a predetermined wavelength of light output from the laser diode,” the Examiner again refers to the operation APC module 2. The applicants note that, nothing about Burbidge’s APC module 2 teaches or suggests operating a

thermo-electric cooler so as to maintain a laser diode at a temperature that corresponds to a predetermined wavelength. Indeed, nothing about Burbidge's APC module 2 teaches or suggests any type of temperature control. Accordingly, the applicants respectfully submit that independent claims 1 and 9 are allowable over Burbidge.

Regarding independent claim 14, the Examiner merely makes reference to almost four columns of Burbidge without specifying anything that teaches or suggests the claimed "wherein a choice of the one of at least a first mode and a second mode is a function of a performance requirement." The applicants respectfully submit that the particular parts of the cited reference that the Examiner has relied upon have not been designated as nearly as practicable, and the pertinence of the reference has not been clearly explained, both as required by 37 C.F.R. § 1.104(c)(2). Moreover, the applicants respectfully submit that nothing in the cited portion of Burbidge teaches or suggests that Burbidge's TEC 6 is responsive to inputs from a temperature circuit that identify one of at least a first mode and a second mode. Moreover, there is no discussion in the cited portion of Burbidge regarding choosing between such modes as a function of a performance requirement. Accordingly, the applicants respectfully submit that independent claim 14 is allowable over Burbidge.

Claims 2-8 depend from claim 1 and are allowable for at least this reason. Claims 10-13 depend from claim 9 and are allowable for at least this reason. Claims 15-22 depend from claim 14 and are allowable for at least this reason. In view of the remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop: Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA, 22313-1450, on <u>Jan 6</u> , 2004.	
 Attorney for Applicant(s)	<u>1/6/04</u> Date of Signature

Respectfully submitted,



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